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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,884

06/16/2005

Takashi Yamaguchi

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EXAMINER

BODAWALA, DIMPLE N

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

06/12/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,884	Applicant(s) YAMAGUCHI ET AL.	
	Examiner DIMPLE N. BODAWALA	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,9,13,19 and 21-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,9,13, 19 and 21-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

In view of the amendment filed on 3/13/2008 following rejection and objection are withdrawn as a reason of record from the previous office action, mailed on 12/13/2007.

- Objection of oath/declaration.
- Objection of specification.
- Rejection of claims 1, 9 and 13 under 35 USC 112, second paragraph.
- Rejection of claims 1, 9, 13, 19 and 21 under 35 USC 102(b) as being anticipated by JP (2002-302795).
- Rejection of claims 1, 9, 13, 19 and 21 under 35 USC 103(a) as being unpatentable over JP (2001-172795) in view of Kataoka et al. (US 5,866,025).

Response to Arguments

1. Applicant's arguments, see Remarks, filed on 3/13/2008, with respect to the rejection(s) of claim(s) 1 under 102(b) and 103(a) have been fully considered.
2. Applicant argues that the prior art, JP (2002-302795) discloses a thickness of the anodic film of 30-400 nm, more desirably 100-300 nm, and

also, states that it is easy to produce a crack in the anodic oxide film itself when the thickness exceeds 400 nm, but fails to teach or suggest a depth of anodic oxidation coating of about 1 μm to about 1.5 μm . The depth of the claimed invention is on the order of a micron while the thickness of the reference is on the order of a nanometer. Therefore, reference does not disclose a thickness on the order of a micron and therefore does not anticipate the claimed invention. Applicant further argues that the prior art, JP (2002-302795) fails to teach or suggest a specific tensile strength in the range of 20Kgf to at least 50 Kgf.

3. Applicant further argues that the prior art, JP (2001-172795) does not disclose a synthetic resin molding of the claimed invention that is injection molded into the cavity of the mold to bond with the anodic oxidation coating of the aluminum material. This reference does not teach the diameter of the pores in the range of from about 25 nm to about 90 nm, the depth in the range of about 1 μm to 1.5 μm and the tensile strength in the range of 20Kgf to at least 50Kgf. Applicant further argues that combining two references does not teach or disclose using a mold to bond a synthetic resin molding with an anodic oxidation coating of the aluminum raw material as in the claimed invention.

4. Applicant's all arguments are considered and found persuasive; therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejections is made, which described as follows:

New Grounds of Rejections

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 9, 13, 19, 22-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 1 recites the limitation "the injected synthetic resin" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 9 recites the limitation "the cavity" in lines 13. There is insufficient antecedent basis for this limitation in the claim, because claim 9 is depended on claim 1, wherein claim 1 fails to cite claimed structural limitation of "cavity".

9. Claim 19 recites the limitations "the aluminum material" in line 4, "the shape of plate" in line 5, and "the contact portion of the synthetic resin mold"

in lines 8-9. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 19 is vague and indefinite because it is unclear which condition is required to operate heating apparatus.

Claim Rejections - 35 USC § 103

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claims 1, 9, 13, 19 and 21-36 are rejected under 35 U.S.C. 103(a) as being obvious over JP (2002-302795); which is cited by Applicant on PTOL-1449 in view of Kataoka et al. (US 5,866,025).

13. JP (2002-302795) discloses a surface treatment device which comprises a resin film is carried out to the surface treatment aluminum material which has the anodic oxide film (See paragraph 14 of the translation); anodic oxide film which is formed in the front face of the aluminum or an aluminum alloy, wherein the anodic oxide coating film having pores (See paragraph # 6 of the translation), and wherein the pores having a diameter of 50-200 nm (See paragraph # 8 of the translation), wherein upper range value of the diameter falls in the claimed range as defined in claim 1, and the thickness of the layer is 30-400 nm which is converted to 0.03-0.4 μm , which is below the value of

the depth of the claimed invention. Therefore, the foreign art fails to teach or suggest depth of the pores.

14. Kataoka et al. ('025) discloses a synthetic resin molding for injecting resin mold over the base for producing fine pores, wherein pores are involved to discharge the gas. It further teaches that the pores having diameter about 0.005-0.3 mm, and thickness or depth or width of the pores is about 0.001-0.1mm (See col.25 lines 55-60), wherein lower range of the width 0.001 mm is converted to 1 μ m which is in desired range value of the claimed invention. It further teaches that the diameter of pores or the width of the pores decreases, the number of pores should be increased. However, the thickness of the coating is in desired range as cited in the claimed invention, therefore, the reference inherently suggest mechanical property of the material such as tensile strength in desired claimed range based on calculation of the coating thickness. It further suggests coating having excellent elongation at break so as withstand the stress (See col.22 lines 7-13), which inherently suggests the mechanical strength of the material but fails to teach or suggest data of the tensile strength as cited in claim of the instant application. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention

but has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP §§ 2112-2112.02.

15. Here claims 9, 13, 19 and 21-36 are claimed limitation of product produced by different method, while claim 1 is claimed product. Furthermore, claim 1 recites the process limitation for producing the product such as "injected synthetic resin". As we know that the product can be manufactured by different processes, unless it is Applicant's burden to prove that an unobviousness difference exists. With respect to the claim recitation regarding the method of forming the apparatus, such relate only to the method of producing the claimed apparatus, which does not impart patentability to the apparatus claim. Note that determination of patentability is based on the product apparatus itself, *In re Brown*, 173 USPQ 685,688, and the patentability of a product does not depend on its method of production, *In re Pilkington*, 162 USPQ 145, 147; *In re Thorpe*, 227 USPQ 964 (CAFC 1985). Note that it is Applicant's burden to prove that an unobvious difference exists, *In re Marosi*, 218 USPQ 289, 292-293 (CAFC 1983), and Applicant must show that different methods of manufacture produce articles having inherently different characteristics, *Ex parte Skinner*, 2 USPQ2d 1788, See MPEP 2113. It the prior art discloses different process to produce product

invention with similar limitation of the claimed invention, therefore, the prior art anticipates or obvious over the claimed invention.

16. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of JP (2002-302795) by providing desired depth of the coating or depth of the pores of Kataoka et al. ('025) because such alignment is involved to produce a composite with improved heat resistance and toughness and also excellent in electric insulation and anti-corrosion properties.

17. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of JP (2002-302795) by providing a data of tensile strength because such data is associated with the thickness of coating which is involved to form stable and fast composites, and also a lower number of tensile strength of the coating is easy to peel off from the material.

18. Claims 1, 9, 13, 19 and 21-36 are rejected under 35 U.S.C. 103(a) as being obvious over Iwasaki et al. (US 2002/0109134).

19. Iwasaki et al. discloses nanostructure which comprises aluminum material (1) having anodic oxidation coating (4) for forming innumerable pores (3,5) (See paragraphs # 47-48) having depths are in the range of 10nm to 100µm (See paragraph # 52) and diameter is about 25 nm and 40 nm (See

example-2). However, the thickness of the coating is in desired range as cited in the claimed invention, therefore, the tensile strength also anticipates by the references based on calculation of the coating thickness, wherein varying thickness or depth of the coating within the range disclosed in order to optimize tensile strength would be an obvious variation to one of ordinary skill in the art. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).
See MPEP § § 2112- 2112.02.

20. Here claims 9, 13, 19 and 21-36 are claimed limitation of product produced by different method, while claim 1 is claimed product. Furthermore, claim 1 recites the process limitation for producing the product such as "injected synthetic resin". As we know that the product can be manufactured by different processes, unless it is Applicant's burden to prove that an unobviousness difference exists. With respect to the claim recitation regarding the method of forming the apparatus, such relate only to the method of producing the claimed apparatus, which does not impart patentability to the apparatus claim. Note that determination of patentability

is based on the product apparatus itself, *In re Brown*, 173 USPQ 685,688, and the patentability of a product does not depend on its method of production, *In re Pilkington*, 162 USPQ 145, 147; *In re Thorpe*, 227 USPQ 964 (CAFC 1985).

Note that it is Applicant's burden to prove that an unobvious difference exists, *In re Marosi*, 218 USPQ 289, 292-293 (CAFC 1983), and Applicant must show that different methods of manufacture produce articles having inherently different characteristics, *Ex parte Skinner*, 2 USPQ2d 1788, See *MPEP 2113*. If the prior art discloses different process to produce product invention with similar limitation of the claimed invention, therefore, the prior art anticipates or obvious over the claimed invention.

21. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of Iwasaki et al. by providing tensile strength which is optimized from thickness or depth of the coating for forming stable and fine nanostructure with desired dimension and shape of pores, which is widely used for electronic and optical devices.

22. Claims 1, 9, 13, 19 and 21-36 are rejected under 35 U.S.C. 103(a) as being obvious over JP (2002-302795); which is cited by Applicant on PTOL-1449 in view of Hisamoto et al. (US 6,444,304).

23. JP (2002-302795) discloses a surface treatment device which comprises a resin film is carried out to the surface treatment aluminum material which

has the anodic oxide film (See paragraph 14 of the translation); anodic oxide film which is formed in the front face of the aluminum or an aluminum alloy, wherein the anodic oxide coating film having pores (See paragraph # 6 of the translation), and wherein the pores having a diameter of 50-200 nm (See paragraph # 8 of the translation), wherein upper range value of the diameter falls in the claimed range as defined in claim 1, and the thickness of the layer is 30-400 nm which is converted to 0.03-0.4 μm , which is below the value of the depth of the claimed invention. Therefore, the foreign art fails to teach or suggest depth of the pores.

24. Hisamoto et al. ('304) discloses thickness of anodic oxidation coating is preferably 0.05 μm or more in order to produce composite with excellent anticorrosiveness property (See col.7 lines 13-21). It further suggests that if thickness is too large, cracking occurs by an influence of an internal stress, which raised the separation of coating, and, therefore, the thickness of coating is preferably set to be equal to or less than 150 μm (See col.7 lines 13-21), and, thus, the reference inherently suggests the mechanical tensile strength base on the thickness of coating. It further suggests that the pore diameter is adjusted to 80 nm or less (See col.8 lines 11-18; col.11 lines 36-56), because such dimension of the pores is involved to generate a residual stress. When the reference discloses all the limitations of a claim except a

property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

See MPEP § § 2112- 2112.02.

25. Here claims 9, 13, 19 and 21-36 are claimed limitation of product produced by different method, while claim 1 is claimed product. Furthermore, claim 1 recites the process limitation for producing the product such as "injected synthetic resin". As we know that the product can be manufactured by different processes, unless it is Applicant's burden to prove that an unobviousness difference exists. With respect to the claim recitation regarding the method of forming the apparatus, such relate only to the method of producing the claimed apparatus, which does not impart patentability to the apparatus claim. Note that determination of patentability is based on the product apparatus itself, *In re Brown*, 173 USPQ 685,688, and the patentability of a product does not depend on its method of production, *In re Pilkington*, 162 USPQ 145, 147; *In re Thorpe*, 227 USPQ 964 (CAFC 1985). Note that it is Applicant's burden to prove that an unobvious difference exists, *In re Marosi*, 218 USPQ 289, 292-293 (CAFC 1983), and Applicant must show that different methods of manufacture produce articles having

inherently different characteristics, *Ex parte Skinner, 2 USPQ2d 1788, See MPEP 2113*. If the prior art discloses different process to produce product invention with similar limitation of the claimed invention, therefore, the prior art anticipates or obvious over the claimed invention.

26. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of JP (2002-302795) by providing desired depth of the coating in order to produce composite with excellent anticorrosiveness property (See col.7 lines 13-21) and tensile strength property, which benefits to prevent cracking of coating and also reduce the rate of separation of coating from the article as suggested by Hisamoto et al. ('304).

27. Claims 1, 9, 13, 19 and 21-36 are rejected under 35 U.S.C. 103(a) as being obvious over JP (2002-302795); which is cited by Applicant on PTOL-1449 in view of Hisamoto et al. (US 6,066,392).

28. JP (2002-302795) discloses a surface treatment device which comprises a resin film is carried out to the surface treatment aluminum material which has the anodic oxide film (See paragraph 14 of the translation); anodic oxide film which is formed in the front face of the aluminum or an aluminum alloy, wherein the anodic oxide coating film having pores (See paragraph # 6 of the translation), and wherein the pores having a diameter of 50-200 nm (See

paragraph # 8 of the translation), wherein upper range value of the diameter falls in the claimed range as defined in claim 1, and the thickness of the layer is 30-400 nm which is converted to 0.03-0.4 μm , which is below the value of the depth of the claimed invention. Therefore, the foreign art fails to teach or suggest depth of the pores.

29. Hisamoto et al. ('392) discloses Al material having anodic oxidation film having a porous layer and a barrier layer, wherein thickness of anodic oxidation coating is more preferably 1 μm or more in order to produce composite with excellent anticorrosiveness property (See col.8 lines 39-47). It further suggests that if thickness is too large, cracking occurs by an influence of an internal stress, and thus coating becomes insufficient, or exfoliation of the film arises (See col.8 lines 39-47), and, thus, the reference inherently suggests the mechanical tensile strength base on the thickness of coating. It further suggests that the pore diameter is adjusted to 80 nm or less (See col.9 lines 30-33), and the thickness of the barrier layer is more preferably 70 nm or more, which becomes possible to relieve stress and volume change generated when the anodic oxidation film in contact with corrosive gas, and, thus such dimension is involved to improve adhesion of the anodic oxidation film to the Al alloy surface in high temperature thermal cycles and corrosive environment, and exhibit excellent gas corrosive resistance and plasma

resistance (See col.9 lines 25-47). When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § § 2112- 2112.02.

30. Here claims 9, 13, 19 and 21-36 are claimed limitation of product produced by different method, while claim 1 is claimed product. Furthermore, claim 1 recites the process limitation for producing the product such as "injected synthetic resin". As we know that the product can be manufactured by different processes, unless it is Applicant's burden to prove that an unobviousness difference exists. With respect to the claim recitation regarding the method of forming the apparatus, such relate only to the method of producing the claimed apparatus, which does not impart patentability to the apparatus claim. Note that determination of patentability is based on the product apparatus itself, *In re Brown*, 173 USPQ 685,688, and the patentability of a product does not depend on its method of production, *In re Pilkington*, 162 USPQ 145, 147; *In re Thorpe*, 227 USPQ 964 (CAFC 1985). Note that it is Applicant's burden to prove that an unobvious difference exists, *In re Marosi*, 218 USPQ 289, 292-293 (CAFC 1983), and Applicant

must show that different methods of manufacture produce articles having inherently different characteristics, *Ex parte Skinner, 2 USPQ2d 1788, See MPEP 2113*. If the prior art discloses different process to produce product invention with similar limitation of the claimed invention, therefore, the prior art anticipates or obvious over the claimed invention.

31. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of JP (2002-302795) by providing desired depth of the coating which is involved to improve adhesion of the anodic oxidation film to the Al alloy surface in high temperature thermal cycles and corrosive environment, and exhibit excellent gas corrosive resistance and plasma resistance of the composite article (See col.9 lines 25-47) as suggested by Hisamoto et al. ('392).

Conclusion

32. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final

action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIMPLE N. BODAWALA whose telephone number is (571)272-6455. The examiner can normally be reached on Monday - Friday at 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PHILLIP C. TUCKER can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dimple N Bodawala
Examiner
Art Unit 1791

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